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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Wireless Fixed Access)
Local Loop Services)
) RM No. 8837
Petition for Allocation of)
Radio Spectrum in the 2 GHz)
Band for the Provision of)
Wireless Fixed Access Local)
Loop Services)

PARTIAL OPPOSITION OF CYLINK CORPORATION

Cylink Corporation ("Cylink"), by its attorneys, hereby submits this partial opposition to the Petition for Rulemaking filed June 10, 1996, by DSC Communications Corporation ("DSC").¹ DSC asks the Commission to allocate spectrum between 1.3 and 2.7 GHz for wireless fixed access-local loop service, and suggests a number of alternative allocations within this range, including the 2400-2439.5 MHz band.

Cylink advances no position on the general merits of DSC's request that spectrum be allocated for wireless fixed-access local loop operations or on the allocation of spectrum other than 2400-2439.5 MHz for this purpose.

¹ DSC Communications Corporation, Petition For Rulemaking (filed June 10, 1996). DSC's Petition for Rulemaking was placed on Public Notice July 11, 1996.

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Cylink does, however, oppose the allocation of any portion of the 2400-2483.5 MHz band for wireless fixed access-local loop service.²

As discussed below, the 2400-2439.5 MHz band is located within the 2400-2500 MHz band, which is available for and used extensively by industrial, scientific, and medical ("ISM") applications. The 2400-2439.5 MHz band is also heavily occupied by unlicensed Part 15 devices that are required to accept any harmful interference caused by ISM operations. The allocation of this portion of the spectrum to wireless fixed access-local loop services, if permitted by the Commission, would appear incompatible with such uses. Indeed, as recently as last year, the Commission reaffirmed the importance of Part 15 operations in the 2400 MHz band and declined to proceed with its proposal to allocate a portion of the band (2402-2417 MHz) for general fixed and mobile services because of the potential interruption to Part 15 devices.

In view of the extensive use of 2400-2483.5 MHz by ISM and Part 15 devices, Cylink submits that the allocation of any portion of this band for wireless fixed access-local loop operations would be contrary to the public interest and inconsistent with the Commission's prior treatment of the band.

² Cylink recognizes that the allocations suggested by DSC include only the 2400-2439.5 MHz portion of the band. However, Cylink opposes allocation of any portion of the 2400-2483.5 MHz band, used extensively by ISM and Part 15 devices, for wireless fixed access-local loop service.

I. Cylink Opposes Consideration of Any Portion of the 2400-2483.5 MHz ISM Band for Wireless Fixed-Access Local Loop Services

Cylink is a leading manufacturer of spread spectrum equipment for use in the United States and abroad. The company's AirLink™ radios, which are authorized to operate under Part 15 of the Commission's Rules, serve a vast range of point-to-point communications needs over paths of up to 30 miles (48 km) in the 2.4 GHz band and 24 miles in the 5.8 GHz band.

The Commission initially authorized the operation of low-power, unlicensed, spread spectrum systems in 1985.³ Since then, the industry has introduced a wide variety of consumer products, such as digital cordless telephones, electronic article surveillance equipment, utility metering devices, fire and security alarm devices, wireless bar code readers, collision avoidance systems, and wireless local area networks ("LANs"). The Commission recently observed that "Part 15 devices provide a variety of consumer and business oriented services that benefit individuals, commercial services, and private spectrum users and . . . have applications for public safety and medical needs."⁴ In addition, the Commission cited the following benefits brought about by the availability of Part 15 devices:

³ See Authorization of Spread Spectrum and Other Wideband Emissions Not Presently Provided For in the FCC Rules and Regulations, 101 FCC 2d 419 (1985).

⁴ Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 10 FCC Rcd 4769, 4786 (1995).

lower costs of energy through automatic meter reading and optimized power generation, low-cost broadband access to Internet services and other information networks for schools, libraries, telecommuters and home offices, mobility of telephonic and computer communications within offices and homes without extensive reconstruction and wiring, immediately installable video conferencing among and between buildings for educational instruction, health care monitoring and judicial procedures without construction of special studio facilities, safe transport of chemicals and petroleum products through low-cost and easily deployable pipeline monitoring services, and control for potentially tens of thousands of traffic lights, at less than one-third the cost of wireline solutions, to ease road congestion and significantly reduce pollution and new street construction.⁵

Because of the "universal benefits provided by Part 15 equipment, the potential growth for new technologies in this area, and the difficulty of implementing commercial services in [the 2402-2417 MHz] band," the Commission -- just last year -- declined to allocate 2402-2417 MHz for licensed commercial services.⁶ This decision, as well as the Commission's finding that "the public interest is best served by providing for the continued availability of this band for Part 15 equipment,"⁷ remain valid today and dictate against the allocation of any portion of the 2400-2483.5 MHz band for wireless fixed access-local loop services.

Grant of DSC's petition in the 2400 MHz band would undermine the well recognized public interest benefits of Part 15 operations in that spectrum. There are many thousands of unlicensed devices already operating

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

in the 2400-2483.5 MHz band, making it doubtful that wireless fixed access-local loop services could function compatibly in the same spectrum, even given the secondary nature of Part 15 operations. Moreover, the record in ET Docket No. 94-32 is replete with evidence that microwave oven emissions in the 2400 MHz band, new industrial lighting systems, and other high-powered ISM applications pose a significant concern for operations in the band and make it particularly unsuitable for applications such as wireless fixed access-local loop systems.⁸ Indeed, virtually every location that would be served by a wireless local loop has a microwave oven operating in the band. The widespread use of these products, coupled with the rapid increase in their development, particularly with respect to microwave lighting, raises serious questions regarding the feasibility of 2400-2439.5 MHz as a potential location for a ubiquitous common carrier service that must be highly reliable to compete effectively with wireline local exchange offerings.

Furthermore, there are a number of alternative allocations available for the type of service proposed by DSC. In particular, the Commission recently designated 1000 MHz of spectrum in the 28 GHz band for Local Multipoint Distribution Service ("LMDS") operations and proposed to designate an additional 300 MHz at 31.0-31.3 GHz for LMDS use.⁹ In addition, the

⁸ See Reply Comments of the Part 15 Coalition, ET Docket No. 94-32, at 6 (filed Jan. 6, 1995).

⁹ Rulemaking to Amend Parts 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-
(continued...)

Commission recently adopted rule changes that will allow commercial mobile radio service ("CMRS") licensees to offer fixed wireless services on their assigned spectrum on a co-primary basis with mobile service offerings.¹⁰

Spectrum is also available above 40 GHz for wireless local loop operations and may be available in other lower bands that will not present the same type of serious disruption that an allocation involving the 2400-2439.5 MHz band would clearly implicate. Cylink submits that DSC's reluctance to use spectrum above 3 GHz¹¹ should not outweigh the disadvantages, described above, posed by the suggested allocation of 2400-2439.5 MHz.

II. Conclusion

For the reasons set forth herein, Cylink opposes the allocation of any portion of the 2400-2483.5 MHz band for wireless fixed access-local loop services. As recently recognized by the Commission, the band is heavily occupied by unlicensed Part 15 devices that offer a variety of innovative and spectrum efficient services that directly meet the demands of consumers. The allocation of any portion of this spectrum for an additional service will

⁹(...continued)
30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, CC Docket No. 92-297 (July 22, 1996).

¹⁰ Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6 (Aug. 1, 1996).

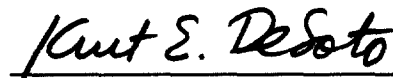
¹¹ See DSC Communications Corporation, Petition for Rulemaking, at 21.

seriously threaten the continued operation of Part 15 devices, which are already constrained by ISM operations in the 2400-2500 MHz band. Furthermore, given the high occupancy of the band by Part 15 and ISM devices, the band appears to be of little or no utility for the type of service proposed by DSC.

Respectfully submitted,

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Dated: August 12, 1996

CERTIFICATE OF SERVICE

I, Kim R. Riddick, hereby certify that on this 12th day of August, 1996,
I caused copies of the foregoing " Partial Opposition of Cylink Corporation,"
to be service via first-class postage prepaid mail to the following:

Mr. James L. Donald
Chairman and Chief Executive Officer
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Kim R. Riddick